ZyXEL

Ethernet Switch Product Solution Guide

Ethernet Switch for Business Connectivity

Spring 2008

ZyXEL

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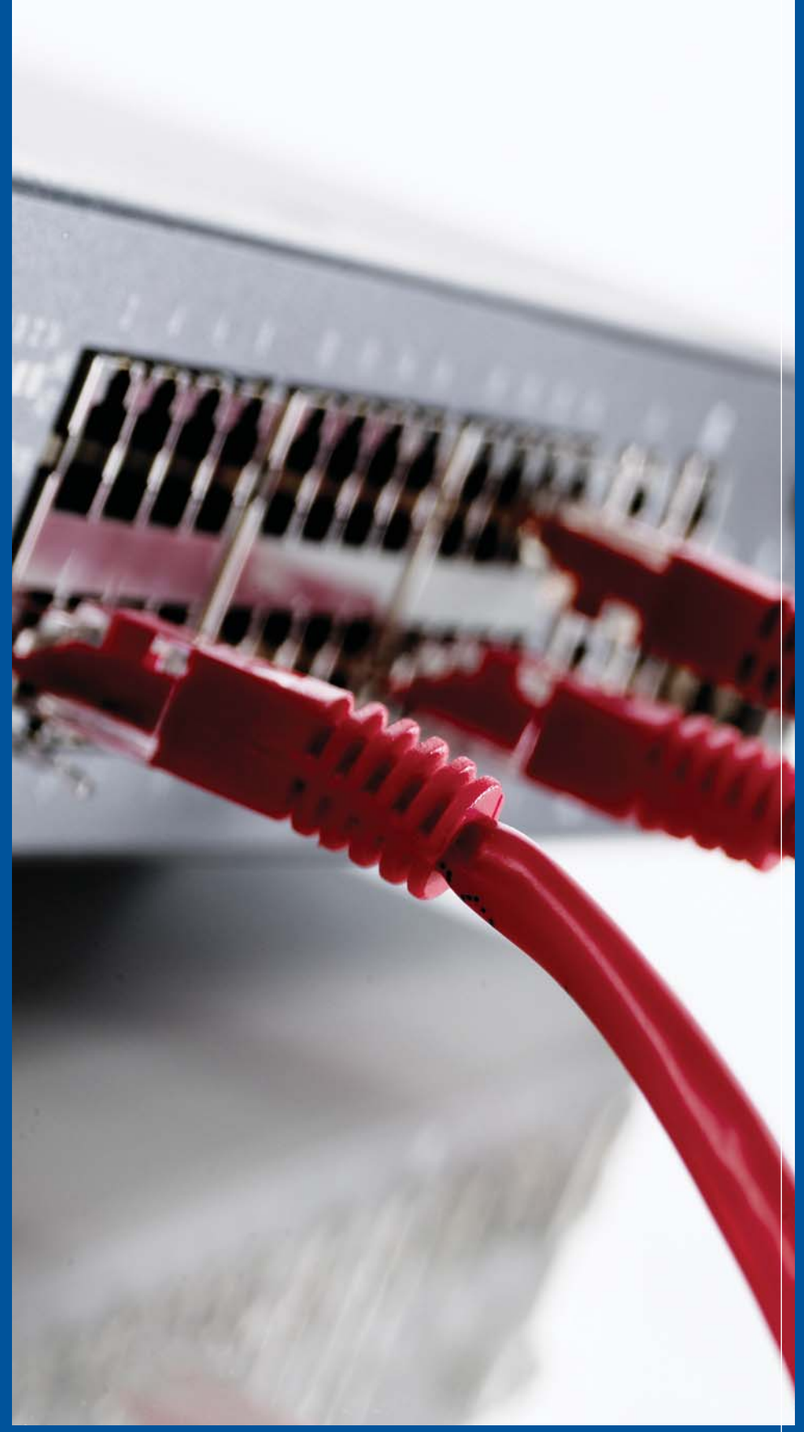

Ethernet Switch
Product Solution Guide
Spring 2008

ZyXEL

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  - Unmanaged Gigabit Ethernet Switches
  - Network Management Software
  - Switch Accessories
  - Optical Solution

Which ZyXEL Switch is Right for You?

Switch Category	Switch Family	Typical Application
Modular Switch	MM-7201 MI-7248 MI-7248TF MI-7248PWR MI-7308 MP-7201 MP-7202 EM-422	High-speed connectivity for network core or traffic aggregation in Enterprise or server farms.
Fixed-Port Gigabit Managed Switch	**L3 GE Switches** ▪ XGS 4500/4700 ▪ GS-4000 ▪ GS-2700 **L2 GE Switches** ▪ GS-1500 ▪ GS-2000 ▪ GS-3000	High-speed aggregation and workgroup connectivity for enterprise- or Telco-level edge or aggregation connectivity. Enterprise-level high-speed aggregation connectivity; Telco-level high-speed aggregation or edge and server farm connectivity. High-performance routing for enterprise- or Telco-level edge/aggregation connectivity for central enterprise network to link different local LANs.
Fixed-Port Fast Ethernet Managed Switch	**L3 FE Switches** ▪ ES-2700 ▪ ES-4100 **L2 FE Switches** ▪ ES-1500 ▪ ES-2000 ▪ ES-2108 ▪ ES-3100	10/100M edge connectivity requiring easy management, centralized control, security protection and traffic prioritizing Designed for office, campus or government network connectivity The Power over Ethernet switch has simultaneous PoE, QoS, central authentication and management features to take advantage of PoE applications like IP phone and IP camera, etc.

Handle with Care

ZyXEL Ethernet Switch series and related products adopt the environmental protection regulations from design, procurement, production to distribution.

ZyXEL Switch Quick Finder

Modular Switch

MS-7206	MS-7206	Page 6	
Optional Modular	MM-7201	Page 6	
	MI-7248	Page 6	
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	MI-7248PWR	Page 6	
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Optional Accessories	MP-7201	Page 6	
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Fixed Port Switch

Managed Switch	Layer 2 FE Switch	ES-2000 Switches	Page 13	
		ES-2100 Switches	Page 14	
		ES-3100 Switches	Page 12	
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		ES-4100 Switches	Page 11	
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Web Managed Switch	10/100 Switch	ES-1500 Switches	Page 15	
	100/1000 Switch	GS-1500 Switches	Page 15	
Unmanaged Switch	10/100 Switch	ES-1000 Switches	Page 16	
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	100/1000 Switch	GS-1000 Switches	Page 17	
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Network Management Software

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NetAltas Workgroup		Page 18

Switch Accessories

Network Adapter	FN312	Page 19	
	GN680-T	Page 19	
PoE Injector	PoE-12	Page 19	
Backup Power System	BPS-120	Page 19	

Optical Solution

Media Converter	MC1000-SFP	Page 20	
	MC100FX-SC2	Page 20	
	MC100FX-SC-30	Page 20	
100M SFP Transceiver	SFP-100 Series	Page 20	
1000M SFP Transceiver	SFP Series	Page 20	
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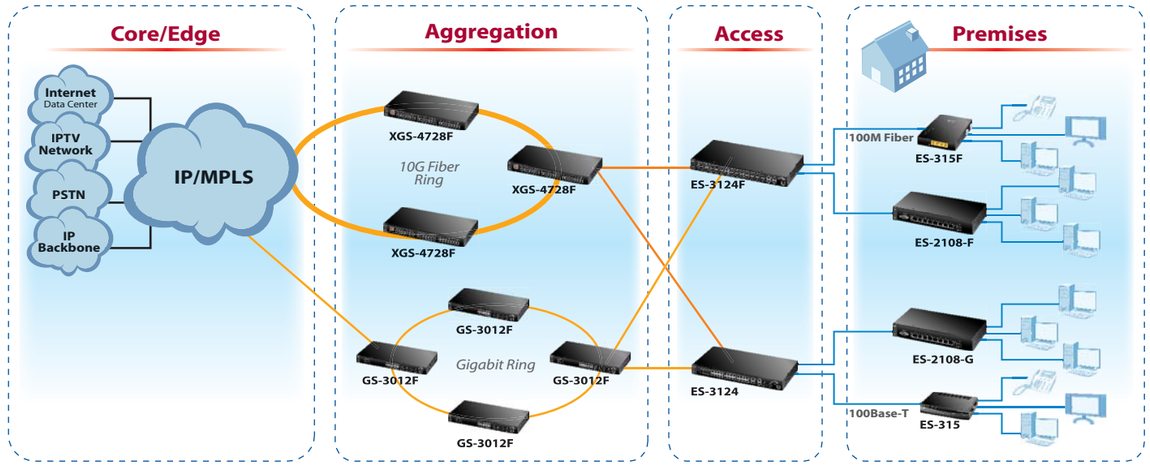
10G XFP Transceiver	Finisar FTLX1411D3	Page 20	
	Finisar FTLX8511D3	Page 20	

Application Scenario

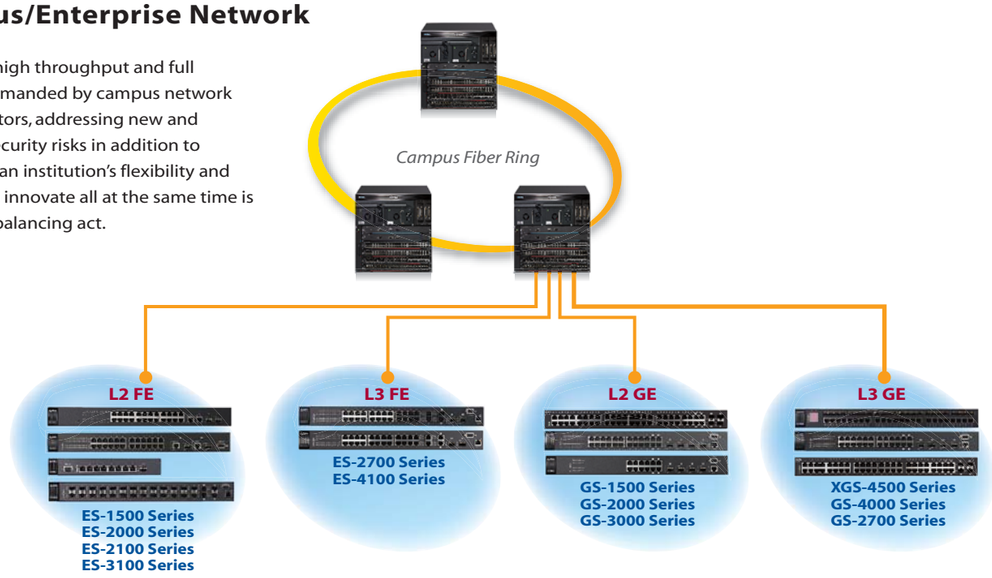
Services Provider Networks

Competitive and customer pressure now compel you to offer unique, In order to satisfy home and commercial subscribers with Triple-Play services incorporating astounding voice, video and data delivery, ZyXEL solutions help customers to offer responsive, rich and personalized online experience for ubiquitous connectivity and therefore more revenue.



Campus/Enterprise Network

Providing high throughput and full security demanded by campus network administrators, addressing new and growing security risks in addition to increasing an institution's flexibility and capacity to innovate all at the same time is a delicate balancing act.



Product at a Glance

Modular Switches

MS-7206 front/rear panel

MS-7206

RoHS VERIFIED

Key Benefits

- Unparalleled Performance and Scalability
- High Availability and Resiliency
- Secure Connectivity
- Guaranteed Quality of Service for Different Applications
- Low Total Cost of Ownership

Key Features

- Intelligent L2/L3/L4 local switching
- True non-blocking 384G switching performance
- **Dual active-active switching fabrics**
- Hot-swappable I/O modules
- Built-in OSPF, VRRP
- Up to 192 full-powered GbE PoE ports
- Passive backplane allows redundant, load-sharing, hot-swappable switch modules
- Hot-swappable I/O modules, power supply and fan trays ensure network continuity and easy maintenance
- Isolated power design for PoE and system demand
- High-density with up to 384 100/1000BASE-T ports
- 384 Gbps non-blocking switching fabric hardware wire-speed IP routing platform (OSPF, RIP VRRP DVMRP)
- Fault-free, high-availability system empowered by VRRP, MSTP and RSTP for enhanced resiliency and stability
- Traffic optimization for triple-play data, voice and video applications

MS-7206		
Part Number (STD)	91-010-092001B	
Module Slot	Management	2
	I/O	4
Performance	Switching Fabric (Gbps)	384
	Forwarding Rate (Mpps)	285
Max Port Density	1000BASE-T	192
	1000BASE-T with PoE	192
	1000BASE-T SFP	96
	10G XFP	32
Module	MN-7201	Management Switching Fabric Module
	MI-7248	48-port 100/1000BASE-T (RJ-45) I/O Module
	MI-7248TF	24-port Dual-personality (RJ-45 or SFP Slot) GbE Ports I/O Module
	MI-7248PWR	48-port 100/1000BASE-T (RJ-45) I/O Module with PoE (Full Power)
	MI-7308	4-port XFP and 2 Expansion Slot (EM-422) I/O Modules
Power	MP-7201	600 W Power Supply Module
	MP-7202	750 W External PoE Power Souring Device
Certification/ Conformance		

Modular Switch Introduction

MS-7206 and Optional Modules

Model/Part Number (STD)	Picture	Description
MS-7206 91-010-092001B		**384 Gbps non-blocking switching fabric** **High redundancy and reliability** - Hot-swappable switching modules, I/O modules and fan trays - Dual-active load sharing power supplies - Dual images **High system scalability** - 10U-height - 6 module slots (2 switches/4 I/O modules) - Up to 192-port Gigabit copper/96-port 1000BASE-X SFP - Full Power over Ethernet (PoE) support **Rigid performance for IP service delivery** - OSPF, VRRP built-in - L2/L3/L4 wire-speed switching - L1/L2/L3/L4 multi-layer security protection
MM-7201 91-010-091001B		- 192 Gbps switching fabric - Load-sharing and non-blocking performance - CLI, SNMP, RMON - Out-of-band management - One 10/100BASE-TX management port - Two serial ports: RS-232 console and Alarm console - System status LEDs: PS/PoE/PWR/SYS/Alarm/Master/Slave - Dual Management CPUs
MI-7248 91-010-081001B		- 48-port Gigabit copper I/O module - L2/L3/L4 local switching support - High-density Gigabit copper aggregation
MI-7248PWR 91-010-123001B		- 48-port Gigabit copper with PoE I/O module - L2/L3/L4 local switching support - High-density, full-power PoE aggregation
MI-7248TF 91-010-147001B		- 48-port Gigabit I/O module - 24-port 1000BaseT + 24 SFP slots - L2/L3/L4 local switching support - 24 SFP slots for fiber connectivity - Highly flexible design for high-density environments
MI-7308 91-010-xxxxxx *(Available Q2 2008)*		- 4 x XFP Port + 2 x EM-422 slot I/O module - L2/L3/L4 local switching support - Four SFP slots for fiber connectivity - Two expansion slots for the EM-422 module which provides a flexible solution with 10G uplink - Highly flexible design for high-density environments
MP-7201 91-010-136001B		- 600 W power supply unitfor MS-7206 system - Dual active/active load-sharing design
MP-7202 91-010-103001B		- 750 W external PSU to provide full 48-port PoE power for MI-7248PWR - Isolated PoE and system power for higher stability
EM-422 91-010-151001B		- 10G XFP module for MI-7308 (including XGS-4528F and XGS-4728F) - 2 x 10G transceiver open slots

Layer 3 Switches

XGS-4500/XGS-4700 Series

XGS-4728F front/rear panel

XGS-4528F front/rear panel

Key Benefits

- Unique 24-port GbE copper and fiber connectivity in a 1U-height design
- Built-in 12G stacking ports eliminate hidden cost on network expansion
- True wire-speed L3 switching for high-performance networks

Key Features

- 24 dual-personality Gigabit ports (RJ45 or SFP open slot) enable maximum operating flexibility
- Two built-in 12G stacking Interfaces for stacking up to 10 units
- Two 10 Gigabit uplink ports expand bandwidth 10 times to speed up the traffic transportation
- L3 Advanced Routing Protocols, OSPF, VRRP
- 2 k/16 k MAC entries, 8 K L3 Host and 512/12 K L3 Route
- Multilayer-aware (L2/L3/L4) ACL for security protection and traffic optimization
- Port security and enhanced 802.1x Port Authentication
- Accounting by TACAS+ and RADIUS
- 802.3ag OAM (Link Discovery, Loopback) support
- Backup power system support

XGS-4500/XGS-4700 Series

Model	XGS-4728F	XGS-4728F DC (-48 V ~ -60 V)	XGS-4528F	XGS-4528F DC (-48 V ~ -60 V)
Part Number (STD)	91-010-092001B	91-010-181006B	91-010-146001B	91-010-146006B
Physical Configuration	24 port GbE Dual Personality Interfaces + 2-port 10G stacking + optional 2-port 10GE uplink module			
Switch Fabric Speed	144 Gbps			
Packet Buffer, Bytes	768 k			
Forwarding Rate	100 Mpps			
MAC Address Table	16 k	16 k	8 k	8 k
802.1p Priority Queues per Port	8			
Routing Entries	12 k	12 k	512	512
Routing Domains	64			
Certification/ Compliance				

GS-4000 Series

GS-4024 front/rear panel

GS-4012F front/rear panel

Key Benefits

- High-Performance wire-speed switching and IP routing
- Advanced QoS for significant services
- High-security for business-critical applications

Key Features

- L3 IP Routing RIP and OSPF support
- Multicast DVMRP and IGMP support
- High redundancy and resilience architecture with RSTP, VRRP and Port Trunking
- Optional backup power system
- Multilayer (L2/L3/L4) enterprise Access Control List
- Port security, static MAC filtering and limited MAC number per port
- VLAN Stacking (QinQ) for network-based VPN or campus VPN
- 802.1x Authentication
- ZyXEL iStacking™ technology, clustering network management
- SNMP and RMON support

GS-4000 Series

Model	GS-4024	GS-4024 DC (-48 V ~ -60 V)	GS-4012F	GS-4012F DC (-48 V ~ -60 V)
Part Number (STD)	91-010-035001B	91-010-035006B	91-010-059001B	91-010-059006B
Physical Configuration	24-port Managed Layer 3 Gigabit Ethernet Switch with 4 shared SFP open slots		12-port Managed Layer 3 Gigabit Ethernet Switch with 4 shared 1000Base-T ports	
Switch Fabric Speed	48 Gbps	48 Gbps	24 Gbps	24 Gbps
Forwarding Rate	35.7 mpps	35.7 mpps	17.8 mpps	17.8 mpps
MAC Address Table	16 k			
802.1p Priority Queues per Port	8			
Routing Entries	8 k			
Routing Domains	64			
Certification/ Compliance				

Layer 2 Gigabit Managed Switches

GS-2724 front/rear panel

GS-2750 front/rear panel

GS-2700 Series

Key Benefits

- Empowering Gigabit converged networks
- Secure multi-services delivery quality
- Enhancing multi-layer security protection

Key Features

- RIP, Static Routing support
- 8 IP routing domains
- 8 K IP address table
- 4 dual-personality (RJ-45/SFP) GbE interfaces
- Multi-layer aware (L2/L3/L4) ACL for security protection
- Port security and enhanced 802.1x Port Authentication
- MAC freeze and intrusion lock
- Backup power system support
- Multi-layer aware (L2/L3/L4) ACL for optimizing traffic prioritization
- IEEE 802.1p 8 hardware priority queue
- WFQ, WRR and SPQ Queuing Algorithms

GS-2700 Series

Model	GS-2724	GS-2750
Part Number (STD)	91-010-161001B	91-010-165001B
Physical Configuration	24-port Managed Layer 3 Gigabit Ethernet Switch with 4 shared SFP open slots	48-port Managed Layer 3 Gigabit Ethernet Switch with 2 shared SFP open slot and 2 stacking ports
Switch Fabric Speed	48 Gbps	100 Gbps
Forwarding Rate	35.7 Gbps	74.4 Gbps
MAC Address Table	8 k	16 k
802.1p Priority Queues per Port	8	8
Routing Entries	1 k	64
Routing Domains	8	64
Certification/ Compliance		

GS-2024 front/rear panel

GS-3012 front/rear panel

GS-3012F front/rear panel

GS-2000/GS-3000 Series

Key Benefits

- "Gigabit-to-the-edge" performance for high-bandwidth applications
- Flexible connectivity, resiliency, easy management and stability
- Advanced L2/L3/L4 ACL for traffic optimization and security
- IP multicasting enhancement for effective traffic aggregation

Key Features

GS-2024

- 22-port 1000Base-T + 2 dual-personality (RJ-45 or SFP open slot) GbE uplinks
- 48 Gbps non-blocking switch fabric
- Supports IEEE 802.1p which classes and prioritizes network
- Supports specific MAC addresses forwarding per port support IEEE 802.1x port authentication

GS-3012/GS-3012F

- 8-port 1000Base-T + 4 dual-personality (RJ-45 or SFP open slot) GbE ports
- 8 GbE SFP open slots + 4 dual-personality (RJ-45 or SFP open slot) GbE ports
- 24 Gbps non-blocking switching capability
- BPS support for extra DC power
- MVR enables IP Multicasting applications across multiple VLANs
- MAC freeze and (L2~L4) ACL for security filtering
- Port-trunking provides higher availability
- Clustering simplifies network configuration and management
- Rate limitation allows service differentiation
- Access control enhances network security

GS-2000/GS-3000 Series

Model	GS-2024	GS-3012	GS-3012 DC (-48 V ~ -60 V)	GS-3012F	GS-3012F DC (-48 V ~ -60 V)
Part Number (STD)	91-010-056001B	91-010-039001B	91-010-039004B	91-010-010001B	91-010-050005B
Physical Configuration	24-port Managed Layer 2 Gigabit Ethernet Switch with 2 shared SFP open slots	12-port Managed Layer 2 Gigabit Ethernet Switch with 4 shared SFP open slots		12 SFP open slots Managed Layer 2 Gigabit Ethernet Switch with 4 shared 1000Base-T RJ-45 ports	
Switch Fabric Speed	48 Gbps	24 Gbps	24 Gbps	24 Gbps	24 Gbps
Forwarding Rate	35.7 Gbps	17.8 Gbps	17.8 Gbps	17.8 Gbps	17.8 Gbps
MAC Address Table	8 k	16 k	16 k	16 k	16 k
802.1p Priority Queues per Port	4	8	8	8	8
Certification/ Compliance					

Layer 3 Fast Ethernet Managed Switches

ES-2724 front/rear panel

ES-4124 front/rear panel

ES-2700/ES-4100 Series

Key Benefits

- Empowering Converged Network for SMB
- Secure Multi-Service Delivery Quality
- Enhanced Multi-layer Security Protection

Key Features

ES-2700 Series

- RIP, Static Routing Protocol Support
- Flexible 4 GbE Uplink Interfaces (Copper/Fiber)
- Multi-layer aware (L2/L3/L4) ACL for security protection
- Port security and enhanced 802.1x port authentication
- MAC freeze and intrusion lock
- Back-up Power System support
- Multi-layer aware (L2/L3/L4) ACL for optimizing traffic prioritization
- IEEE 802.1p 8 hardware priority queue
- WFQ, WRR and SPQ queuing algorithms
- 4 GbE uplink hardware architecture

ES-4100 Series

- Advanced routing protocol (OSPF, RIP, VRRP and DVMRP)
- Backup Power System (BPS)
- Multi-layer aware (L2/L3/L4) ACL for optimizing traffic prioritization
- IEEE 802.1p 8 hardware priority queue
- WFQ, WRR and SPQ queuing algorithms
- Multi-layer aware (L2/L3/L4) ACL for security protection
- Port security and enhanced 802.1x port authentication
- MAC freeze and intrusion lock
- VLAN stacking (Q-in-Q)

GS-2700 Series

Model	ES-2724	ES-4124	ES-4124 DC (-48 V ~ -60 V)
Part Number (STD)	91-010-148001B	91-010-110001B	91-010-110006B
Physical Configuration	24-port Fast Ethernet + 2 GbE copper port + 2 GbE dual personality interface	24-port Managed L3 Fast Ethernet managed switch + 2 GbE copper port + 2 GbE dual personality interface	
Switch Fabric Speed	12.6 Gbps	12.8 Gbps	12.8 Gbps
Forwarding Rate	9.6 Mbps		
MAC Address Table	16 k		
802.1p Priority Queues per Port	8		
Routing Entries	8 k		
Routing Domains	8	64	64
Certification/ Compliance			

Layer 2 Fast Ethernet Managed Switches

ES-3124/ES-3124PWR front/rear panel

ES-3148 front/rear panel

ES-3124F front/rear panel

ES-3124-4F front/rear panel

ES-3100 Series

Key Benefits

- Easy ETTx deployments
- Robust High-Availability system design
- Secured service-level IP TV and VoIP operations
- Strengthened service management and control

Key Features

- 24 100BASE multi-version physical configuration ports
- Up to 4 1000BASE-X SFP uplink slots
- IEEE 802.1s MSTP and IEEE 802.1w RSTP enable fast recovery networks
- Backup Power System (BPS) extends network up time
- Policy-based QoS empowered by (L2/L3/L4) ACL, 8 priority queues, WRR/SPQ and DSCP
- IP TV manipulated by MVR & IGMP snooping v3
- Minimized channel surfing disturbance by fast leave
- 256 Static VLAN and 4 K PVID benefit VLAN management
- VLAN Stacking (Q-in-Q) support for L2VPN
- Remote management via IEEE 802.3ah (OAM)

ES-3100 Series

Model	ES-3124	ES-3124 DC (-48 V ~ -60 V)	ES-3148	ES-3124F	ES-3124F DC (-48 V ~ -60 V)
Part Number (STD)	91-010-004001B	91-010-004013B	91-010-079001B	91-010-134001B	91-010-134006B
Physical Configuration	24-port Managed Layer 2 Fast Ethernet Switch+ 2 GbE ports + 2 GbE dual personality interface		48-port Managed + 2 GbE ports + 2GbE dual-personality	24-port Managed Layer 2 Fast Ethernet SFP open slots+2 SFP GBE open slots+2GBE dual personality interfaces	
Switch Fabric Speed	12.8 Gbps	12.8 Gbps	17.6 Gbps	12.8 Gbps	12.8 Gbps
Forwarding Rate	9.6 mpps	9.6 mpps	12.6 mpps	9.6 mpps	9.6 mpps
MAC Address Table	16 k				
802.1p Priority Queues per Port	8 k				
Certification/ Compliance					

Model	ES-3124-4F	ES-3124-4F DC (-48 V ~ -60 V)	ES-3124PWR
Part Number (STD)	91-010-124001B	91-010-124006B	91-010-078001B
Physical Configuration	24-port Managed Layer 2 + 2 GbE SFP open slots+2 GbE dual personality interface		24-port Managed Layer 2 Fast Ethernet Switch + 2 GbE port + 2 dual-personality Gigabit Interfaces
Switch Fabric Speed	12.8 Gbps	12.8 Gbps	12.8 Gbps
Forwarding Rate	9.6 mpps	9.6 mpps	9.6 mpps
MAC Address Table	16 k		
802.1p Priority Queues per Port	8 k		
Certification/ Compliance			

ES-2024A front/rear panel

ES-2048 front/rear panel

ES-2024PWR front/rear panel

ES-2000 Series

Key Benefits

- Intelligent traffic prioritization for multiple services
- Flexible installation by Power over Ethernet
- Intelligent management

Key Features

- 8.8 Gbps/13.6 Gbps non-blocking switching fabric
- Port-based and 802.1Q-tagged VLAN (4K PVID)
- MAC filtering, freeze and specific MAC forwarding
- Port security and port isolation
- 802.1x Port-based authentication for centralized management
- IEEE 802.1p with eight priority queues
- WFQ, bandwidth guaranteed scheduling algorithm
- MVR and IGMP snooping for IP multicasting optimization
- iStacking™ Clustering technology allowing one IP to manage 24 devices
- Flexible installation empowered by Power over Ethernet
- Easy Web GUI for intelligent PoE management

ES-2000 Series

Model	ES-2024A	ES-2024A (+12V DC)	ES-2048	ES-2024PWR
Part Number (STD)	91-010-075001B	91-010-075009B	91-010-111001B	91-010-117001B
Physical Configuration	24-port Managed Layer 2 Fast Ethernet Switch+2GbE dual-personality interface	24-port Managed Layer 2 Fast Ethernet Switch+2GbE dual-personality interface	48-port Managed Layer 2 Fast Ethernet Switch+ 2 GbE dual-personality interface	24 port Managed Layer 2 Fast Ethernet Switch with Power Over Ethernet+ 2 GbE dual personality interface
Switch Fabric Speed	8.8 Gbps	8.8 Gbps	13.6 Gbps	8.8 Gbps
Forwarding Rate	6.6 Mbps	6.6 Mbps	12.6 Mbps	6.6 Mbps
MAC Address Table	8 k	8 k	16 k	6 k
802.1p Priority Queues per Port	4	4	8	4
Certification/ Compliance	FC CE SP C US 232919 153 CCC AR 46			

ES-2108 front/rear panel

ES-2108-G front/rear panel

ES-2108-F front/rear panel

ES-2108PWR front/rear panel

ES-2100 Series

Key Benefits

- Best-fit design for environments with lower port density
- Superior capability for diverse missions
- Robust network availability

Key Features

- 8-port 10/100 Mbps + No uplink/1 dual-personality (RJ-45 or SFP open slot) GbE uplink/1 GbE SFP slot + 1 100Base-FX (MMF LC type 2000 m)/1 100BASE-X SFP slot
- 8-port 10/100 Mbps (PoE) + 1 dual-personality (RJ-45 or SFP open slot) GbE uplink
- 5.6 Gbps non-blocking switching capability
- Fan-less hardware design (ES-2108/ ES-2108-G/ES-2108-F)
- Traffic prioritizing of Intelligent QoS and bandwidth increment of 64 Kbps optimize service quality of application and utilization of bandwidth
- MVR enables IP multicasting applications across multiple VLANs environments
- Against unauthorized access by protection of 802.1x, VLAN (4K PVID), MAC filtering/forwarding and MAC freeze. In addition, Intrusion lock can block the penetration attack
- ES-2108PWR supports full power for 8 port PoE simultaneously (15.4 W x 8)
- ES-2108-F support 100BASE-X trasnsceivers (100FX/LX/BX) ease fiber network deployment

ES-2100 Series

Model	ES-2108	ES-2108 DC (-48 V ~ -60 V)	ES-2108-G	ES-2108-F	ES-2108PWR
Part Number (STD)	91-010-094001B	91-010-094006B	91-010-095001B	91-010-138001B	91-010-096001B
Physical Configuration	L2 Managed Fast Ethernet switch (8 10/100BASE-TX ports)		L2 Managed Fast Ethernet switch (8 10/100 BASE-TX ports + one dual-personality GbE interface	L2 Managed Fast Ethernet switch (8 10/100 BASE-TX ports +one Fast Ethernet SFP fiber port)	8 10/100BASE-TX ports + 1 port 100/1000 Mb copper with SFP combo uplink to comply power over Ethernet
Switch Fabric Speed	5.6				
Forwarding Rate	1.2	1.2	2.7	1.4	2.7
MAC Address Table	8 k				
802.1p Priority Queues per Port	4				
Certification/ Compliance	FC CE SP C US 232919 153 CCC AR 46				

Web-Managed Switches

ES-1500/GS-1500 Series

ES-1528 front/rear panel

ES-1552 front/rear panel

GS-1524 front/rear panel

GS-1548 front/rear panel

Key Benefits

- Robust system design
- Web-managed interface enables simplified configuration
- Revolutionary new smart power
- Auto DoS attack prevention
- Auto VoIP optimization

Key Features

- Auto DoS attack prevention
- Auto VoIP
- 24/48-port 10/100 Mbps + 2 1000BASE-T + 2 dual-personality (RJ-45 or SFP open slot) Gigabit ports
- 20/44-port 100/1000 Mbps + 4 dual-personality (RJ-45 or SFP open slot) Gigabit ports
- 12.8/17.6 Gbps non-blocking switching fabric for ES-1528/52
- 48/96 Gbps non-blocking switching fabric for GS-1524/48
- Flexible 4 GbE uplink interfaces
- IEEE 802.3ad Static Port Aggregation streamlined Web-based interface IEEE 802.1Q VLAN
- Port security
- IEEE 802.1p with 4 priority queues WRR and SPQ queuing algorithms

Web-managed Switch

		Fast Ethernet		Gigabit Ethernet	
Model		**ES-1528**	**ES-1552**	**GS-1524**	**GS-1548**
Part Number (STD)		91-010-132001B	91-010-156001B	91-010-132001B	91-010-156001B
Hardware Highlights	10/100 Fixed Port	24	48		
	100/1000 Fixed Port	2	2	20	44
	Dual Personality Gigabit Interface (RJ45/SFP)	2	2	4	4
	Wire Speed	12.8	17.6	48	96
	Switching Fabric (Gbps)	9.5	13.1	35.7	71.4
	Forwarding Rate (Mbps)	8 k	8 k	8 k	8 k
	MAC Entries	•	•		
	Fan-less	•	•		
Easy of Management	Web-GUI	•	•	•	•
Traffic Management & QoS	**Auto VoIP**	•	•	•	•
	Priority Queue	4	4	4	4
	WRR/SPQ	•	•	•	•
	Rate Limiting	•	•	•	•
	Broadcast Strom Control	•	•	•	•
Secured Network	**Auto DoS Prevention**	•	•	•	•
	802.1Q Tagged VLAN	•	•	•	•
	Specific MAC Forwarding	•	•	•	•
Certification/Compliance					

Unmanaged Fast Ethernet Switches

ZyXEL unmanaged switch product line is designed for powering connectivity. With "Plug-and-play" configuration and flexible design, SB or Home Office can easily find proper solution to set up network as their wish without extra effort and waste.

ES-1124

24-port Rack-mount Unmanaged Switch

Part Number (STD): 91-010-046010B

Key Benefits

- 24-port 10/100 Mbps + 2 dual-personality (RJ-45 or SFP open slot) GbE uplink
- 2 built-in shared Gigabit ports (2x RJ-45 and 2x SFP open slots)
- Auto MDI/MDI-X support
- 1U, 19" rack-mountable

Key Features

- Non-blocking full wire speed forwarding
- Data flow control for better transmission reliability
- Forwards and filters packets at non-blocking, full wire-speed
- Auto MDI/MDI-X support

ES-1016B/ES-1024B

16-port/24-port Rack-mount Unmanaged Switch

Part Number (STD): ES-1024B: 91-010-088001B
ES-1016B: 91-010-087001B

Key Benefits

- 16-port/24-port 10/100 Mbps Fast Ethernet switch
- Auto MDI/MDI-X support
- 1U, 19" rack-mountable

ES-108P/ES-116P/ES-124P

8-port/16-port/24-port Desktop Unmanaged Switch

Part Number (STD): ES-108P: 91-010-076001B
ES-116P: 91-010-085001B
ES-124P: 91-010-086001B

Key Benefits

- 8-port/16-port/24-port autosensing 10/100M full-duplex
- Internal switching power available
- Auto MDI/MDI-X support
- Non-blocking full wire-speed forwarding
- Suitable for desktop and rack-mount installation (ES-116P/ES-124P)

ES-105A/ES-108A

5-port/8-port Desktop Unmanaged Switch

Part Number (STD): ES-105A: 91-010-083001B
ES-108A: 91-010-084001B

Key Benefits

- 5-port/8-port autosensing 10/100 full-duplex
- 2 priority ports/3 priority ports designed for media-rich applications
- Auto MDI/MDI-X support
- Non-blocking full wire-speed forwarding
- Data flow control for better transmission reliability

Unmanaged Gigabit Ethernet Switches

ZyXEL Gigabit unmanaged switch product line is designed for giant bandwidth demand in Small Business. With "Plug-and-play" configuration and flexible design, SB can easily find proper solution to set up network as their wish without extra effort and waste.

GS-1116A/GS-1124A

16-port/24-port Rack-mount Unmanaged Switch

Part Number (STD): GS-1116A: 91-010-115001B
GS-1124A: 91-010-114001B

Key Benefits

- 14-port/22-port 1000Base-T + 2 dual-personality (RJ-45 or SFP open slot) GbE ports
- 2 built-in dual personality gigabit interfaces (RJ-45 or SFP open slot)
- Non-blocking full wire-speed forwarding
- Forwards and filters packets at non-blocking, full wire-speed
- Auto MDI/MDI-X support
- 1U, 19" rack-mountable

Key Features

- Non-blocking full wire speed forwarding
- Data flow control for better transmission reliability
- Forwards and filters packets at non-blocking, full wire-speed
- Auto MDI/MDI-X support

GS-105B/GS-108B

5-port/8-port Desktop Unmanaged Gigabit Switch

Part Number (STD): GS-105B: 91-010-186001B
GS-108B: 91-010-187001B

Key Benefits

- 5-port/8-port 1000Base-T
- Non-blocking full wire-speed forwarding
- Data flow control for better transmission reliability
- Auto MDI/MDI-X support

Network Management Software

NetAtlas Workgroup

SMB Network Elemen Management System

Part Number (STD): 91-010-116001B
(incl Castlerock SNMPc Workgroup)

Key Benefits

- Intuitive Effortless Operation Interface
- Network Health Monitoring and Management
- Productive Network Management Platform
- Security and Access Management

Key Features

- Auto Discovery and Device Viewer
- Templates provisioning for easy configuration
- Traffic/Performance monitoring and management
- Alarm and event management
- Batch firmware upgrade
- Feature-rich Layer 2 and Layer 3 configuration
- Tight access control and log management
- Manages up to 150 ZyXEL managed Switches

NetAtlas Enterprise

Enterprise Network Element Management System

Part Number (STD): 91-010-101001B
(incl Castlerock SNMPc Enterprise)

Key Benefits

- Powerful Central Management Platform
- Excellent Remote Network Management
- Security Platform management

Key Features

- Auto Discovery and Device Viewer
- Templates provisioning for efficient configuration
- Traffic/Performance monitoring and management
- Alarm and event management
- Batch Firmware Upgrade
- Feature-rich Layer2 and Layer3 configuration
- Tight access control and log management
- Allow up to10 concurrent users

Switch Accessories

Power over Ethernet Injector

PoE-12
Power over Ethernet

Part Number (STD): 91-005-116001B

With ZyXEL PoE-12 Power over Ethernet (PoE) injector, for the deployment of Ethernet-enabled devices (WLAN AP, IP Phone, IP Camera, etc), installment won't get restricted the location of power outlet anymore, which ensure the optimum installment of Ethernet-enabled devices. The PoE injector is ideal for extending wireless networks to larger rooms, buildings and warehouses. ZyXEL PoE-12 can support diagnostic for PoE enable/disable first and then decide to feed power or not. At meanwhile, the injector protect the access point or other device from potential power surge damage threat.

Key Features

- Uses a Cat 5 Ethernet cable to carry both the data signals and electrical power. It allows access points to be placed up to 300 feet away from an electrical outlet.
- No software, special cabling or installation of additional electrical sockets is required
- ZyXEL PoE-12 has compact design and is extremely easy to install
- Easy installment for devices below:
  - Wireless LAN Access Points and Bridges
  - Wireless LAN Wi-Fi Amplifiers and Amplified Antennas
  - VoIP (Voice over Internet Protocol) Telephones
  - IP Surveillance Cameras/Web Camera

PCI Network Adapter

GN680-T
Gigabit PCI Network Adapter

FN312
Ethernet UTP PCI Adapter

Part Number (STD): GN680-T: 91-010-090001B
FN312: 91-010-089001B

ZyXEL Ethernet NIC bridges each desktop and forms the network, which releases productivity from nonblocking information flow.

Key Features

- 10/100/1000 Mbps autosensing over Cat-5 (GN680-T)
- 32-bit PCI bus support (GN680-T)
- ACPI support (GN680-T)
- Wake-on-LAN support
- IEEE 802.3/IEEE 802.3u and PCI v2.1/2.2 compliance (FN312)
- Half/full duplex a 10/BaseT/ 100Base-TX (FN312)
- ACPI support (FN312)

Backup Power System

BPS-120

Part Number (STD): 91-010-057001B

The ZyXEL BPS-120, back-up power system, is designed to enhance system availability by offering switch additional DC power source in addition to switch internal power. Each BPS-120 can connect up to 6 devices and act as back-up DC power source for one whose system power failed. This can low the risk of network outbreak due to power down, which is vital for network operation.

Key Features

- Compact design: 1U, rack mountable
- Six output ports for ZyXEL Ethernet switches
- Fast power switchover ensures uninterrupted switching and routing
- Supports ZyXEL L2+/L3/L3+ managed switch (ES-2724/ES-3124/ES-3148/ ES-3124PWR/ES-3124-4F/ES-3124F/ ES-4124/GS-3012/GS-3012F/ GS-4012F/GS-4024/XGS-4528F)

Optical Solution

Ethernet Media Converter

MC100FX-SC2-A/MC100FX-SC30-A
Media Converter (100FX to 100Base-TX)

MC1000-SFP-FP
Media Converter (SFP to 1000Base-T)

Part Number (STD): MC100FX-SC2-A: 91-010-142001B
MC100FX-SC30-A: 91-010-143001B
MC1000-SFP-FP: 91-010-157001B

ZyXEL MC100/1000 series is an Ethernet media converter, which bridges data transmission across medias, UTP Copper and fiber connectivity. For distant connectivity beyond 100 m of CAT-5 cable transmission capability, media converter can be applied for devices without embedded design for fiber connectivity.

Key Features

- Converts speed and media types
- Extends network span for up to 2 km/30 km (MC100FX-SC2-A/SC30-A)
- Auto-negotiation on RJ-45 port
- Auto-crossover on RJ-45 port
- Transparent to 802.1Q VLAN packets
- Link Fault Signaling (LFS)
- Notifies down link to peers
- 1000BASE-X SFP slot empowers flexible connectivity up to 80 km (MC1000-SFP-FP)

SFP Transceiver

ZyXEL's small form factor pluggable (SFP) transceiver family provides high speed full duplex Gigabit performance and hot-pluggable flexibility when operation. All SFP transceiver family is fully compliant with 802.3z standard and SFP MSA for high interoperability to eliminate failure due to compatibility.

Key Features

- Industry standard compliance
- SFP MSA (Multi-Source Agreement) compliance
- Hot-pluggable with maximum flexibility
- Compact size, high port density
- Single +3.3V power supply Low power dissipation

Fast Ethernet SFP Selection Ordering Guide

Model Name	SFP-100FX-2	SFP-100LX-20	SFP-100BX1310-20	SFP-100BX1550-20	SFP-100TX
Connector of Type	LC	LC	LC	LC	RJ-45
Mode	Multi-mode	Single mode	Single mode	Single mode	
Wavelength	1310 nm	1310 nm	1310 nm (TX) 1550 nm (RX)	1550 nm (TX) 1310 nm (RX)	
Distance	2 Km	20 Km	20 Km	20 Km	100 m
Part Number (STD)	91-010-139001B	91-010-141001B	91-010-144001B	91-010-145001B	91-010-173001B

Gigabit SFP Selection Ordering Guide

Model Name	SFP-SX	SFP-LX-10	SFP-BX1310-10	SFP-BX1490-10	SFP-LHX1310-40	SFP-ZX-80
Connector of Type	LC	LC	LC	LC	LC	LC
Mode	Multi-mode	Single mode	Single mode	Single mode	Single mode	Single mode
Wavelength	850 nm	1310 nm	1310 nm (TX) 1490 nm (RX)	1490 nm (TX) 1310 nm (RX)	1310 nm	1550 nm
Distance	500 m	10 Km	10 Km	10 Km	40 km	80 km
P/N	91-010-064001B	91-010-065001B	91-010-152001B	91-010-153001B	91-010-068001B	91-010-070001B

Model Name	SFP-BX1310-40	SFP-BX1310-60	SFP-BX1490-40	SFP-BX1490-60	SFP-1000T
Connector of Type	LC	LC	LC	LC	RJ-45
Mode	Single mode	Single mode	Single mode	Single mode	
Wavelength	1310 nm (TX) 1490 nm (RX)	1310 nm (TX) 1490 nm (RX)	1490 nm (TX) 1310 nm (RX)	1490 nm (TX) 1310 nm (RX)	
Distance	40 Km	60 Km	40 Km	60 Km	100 m
Part Number (STD)	91-010-168001B	91-010-169001B	91-010-170001B	91-010-171001B	91-010-172001B

10G XFP Transceiver Selection Ordering Guide

Model Name	FTLX1411D3	FTLX8511D3
Connector of Type	LC	LC
Mode	Single mode	Multi-mode
Wavelength	1355 nm (TX), 1600 nm (RX)	850 nm
Distance	10 Km	300 m
Part Number (STD)	91-010-178001B	91-010-179001B